

Newcastle-on-Tyne No. 99305

Rpt. 4c.

## REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 10,142.

Received at London Office AUG 12 1940

Date of writing Report 7/8/40 in When handed in at Local Office 10 Port of Manchester.

No. in Survey held at Reddish. Date, First Survey 12/1/40 Last Survey 27/7/40 19

Reg. Book. Number of Visits 6

on the <sup>Single</sup> Twin <sup>Triple</sup> Screw <sup>Quadruple</sup>

S.S. "Aronda"

Tons { Gross 9031  
Net 4463

Built at Walker-on-Tyne By whom built Swan Hunter & Wigham Richardson No. 1640 When built 1940

Owners British India Steam Navigation Co. Ltd. Port belonging to

Oil Engines made at Reddish. By whom made Messrs Crossley Bros Ltd. ENG No. 125842 When made 1940

Generator made at Sunderland By whom made Messrs Sunderland Forge Contract No. When made

No. of Sets 1. Engine Brake Horse Power 34. Nom. Horse Power as per Rule Total Capacity of Generators 20. Kilowatts.

OIL ENGINES, &c.—Type of Engines Vertical Solid Injection <sup>Hand and</sup> <sup>Air Starting</sup> 2 or 4 stroke cycle 4. Single or double acting Single

Maximum pressure in cylinders 750 lb/sq. in. Diameter of cylinders 5" Length of stroke 6 1/4" No. of cylinders 2 No. of cranks 2.

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 12 5/8" Is there a bearing between each crank No.

Revolutions per minute 1200. Flywheel dia. 24" Weight 460 lbs. Means of ignition Compression Kind of fuel used Heavy oil.

Crank Shaft, dia. of journals as per Rule 3 1/2" as fitted 3 1/2" Crank pin dia. 3 1/4" Crank Webs Mid. length breadth 4 1/2" Mid. length thickness 2 1/8" Thickness parallel to axis 2 1/8" Thickness around eyehole 1 1/8"

Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted Thickness of cylinder liners 9/32"

Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes. Means of lubrication Forced.

Are the cylinders fitted with safety valves No. Are the exhaust pipes and silencers water cooled or lagged with non-conducting material.

Cooling Water Pumps, No. one Is the sea suction provided with an efficient strainer which can be cleared within the vessel.

Lubricating Oil Pumps, No. and size one

Air Compressors, No. one No. of stages 2. Diameters L.P. 2 3/8" H.P. 2 1/8" Stroke 1" Driven by camshaft.

Scavenging Air Pumps, No. Diameter Stroke Driven by

AIR RECEIVERS:—Have they been made under Survey State No. of Report or Certificate

Is each receiver, which can be isolated, fitted with a safety valve as per Rule YES

Can the internal surfaces of the receivers be examined YES What means are provided for cleaning their inner surfaces.

Is there a drain arrangement fitted at the lowest part of each receiver YES

High Pressure Air Receivers, No. Cubic capacity of each Internal diameter thickness

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules

Starting Air Receivers, No. ONE Total cubic capacity 1 1/2 c. ft. Internal diameter 9 3/8" thickness 5/16"

Seamless, lap welded or riveted longitudinal joint SEAMLESS Material Q.H. STEEL Range of tensile strength 28-32 Tons Working pressure by Rules 600 lbs/sq. in.

ELECTRIC GENERATORS:—Type ENCLOSED VENTILATED, DRIP-PROOF, COMPOUND WOUND.

Pressure of supply 220 volts. Full Load Current 91 Amperes. Direct or Alternating Current D.C.

If alternating current system, state the periodicity Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on and off YES

Generators, are they compounded as per rule is an adjustable regulating resistance fitted in series with each

shunt field Are all terminals accessible, clearly marked, and furnished with sockets

Are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched Are the lubricating arrangements of the generators as per Rule

If the generators are under 100 kw. full load rating, have the Makers supplied certificates of test YES and do the results comply with the requirements

If the generators are 100 kw. or over have they been built and tested under survey

PLANS. Are approved plans forwarded herewith for Shafting YES Receivers YES Separate Tanks YES.

SPARE GEAR AS PER RULE REQUIREMENTS.

The foregoing is a correct description  
CROSSLEY BROTHERS LIMITED,

Manufacturer.



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Foundation

003154-003161-0198



4<sup>c</sup> 10142.

Dates of Survey while building { During progress of work in shops - - } Jan 12<sup>th</sup>, Feb 5<sup>th</sup>, Mar. 26<sup>th</sup>, June 21<sup>st</sup> + 24<sup>th</sup>, July 27<sup>th</sup>. 1940.  
 { During erection on board vessel - - }  
 Total No. of visits

Dates of Examination of principal parts—Cylinders 12.1.40 Covers 5.2.40 Pistons - Piston rods -

Connecting rods 20.2.39 Crank and Flywheel shafts 5.2.40 Intermediate shafts ✓

Crank and Flywheel shafts, Material O.H. Steel Identification Marks LLOYDS N°1015, J.W.L. 5.2.40.

Intermediate shafts, Material ✓ Identification Marks ✓

Identification marks on Air Receivers 939931. FUEL OIL TANK. LLOYDS TEST 10 lbs/a" W.P. 600 lbs/a" JWL 26/3/40 24-6-40. H.M.

Is this machinery duplicate of a previous case No. If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.)

This engine has been constructed under special survey, of tested materials + in accordance with Secretary's letters, approved plans + Rule Requirements.

The materials + workmanship employed in its construction are of good quality, + the set when tested in the shop under full load conditions showed satisfactory results.

In our opinion, this set is suitable to be placed on board a vessel classed with this Society, for the purpose intended.

Generator Test Certificates attached hereto. ✓

This Emergency Oil Engine/Generator Lighting & Power set has been satisfactorily fitted on board the Tunn Se 4s ARONDA, S.H.W.R. yard 6/4/40 in its house on the Bridge Deck, and tested under working conditions

A. Watt  
 Newcastle on Tyne  
 11/3/41.

The amount of Fee ... £ 4 : 4 : When applied for, 10/8/40  
 Travelling Expenses (if any) £ - : 10/- When received, as per letter 21.10.1940

E. Knowles  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 4 APR 1941

Assigned

See Nwc. J.E. 99305



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